

A Summary of New Descriptions of Slipper snails *Crepidula adunca* G. B. Sowerby I, 1825 and *Crepidula norrisiarum* M. B. Williamson, 1905

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A combination of shell morphology, habitat conditions, host species and genetic sequencing was required to understand the slipper snails of the NE Pacific. Collin (2019) provided a review of the slipper snails, “Calyptraeidae from the N.E. Pacific”. This was followed up by Castelin et al. 2022, detailing further studies and collaboration, including participation by members of the Pacific Northwest shell club, Rick Harbo and Bill Merilees, Linda Schroeder and George Holm. The results include new descriptions of the slipper snails *Crepidula adunca* and *C. norrisiarum*, new geographic distributions, and a number of new host observations for both slipper snails.

Most striking is that *C. norrisiarum* was found to be the common slipper snail in the more protected waters of the Gulf Islands, San Juan Islands and Puget Sound. For a long time, it was misidentified as *C. adunca* due to their similar size and shell morphology. The Hooked slipper, *C. adunca*, is limited to the transition waters of Juan de Fuca Strait and on the outer coast. Samples of *C. adunca* have been found as far “inshore” as Victoria, BC (R. Harbo) and only as far in as Salt Creek County Park, near Port Angeles (Mary Jo Adams, pers. comm.) on the Washington shore of the Juan de Fuca Strait. On both occasions *C. adunca* was found intertidally on the Dire whelk, *Lirabuccinum dirum*. The slipper, *C. adunca*, is common intertidally on a variety of hosts while the Blunt slipper is typically found on subtidal hosts.

I suggest the following common names, referring to the apex of the shell. The Hooked slipper, *Crepidula adunca*, has an elevated, hooked apex and the Blunt slipper for *C. norrisiarum* has a low, blunt apex (Fig. 1).

The shells of the two species can typically be separated by the presence (*C. adunca*) or absence (*C. norrisiarum*) of a “pit” or cavity in the shelf, on the underside (Fig. 2). The soft-body colors on the underside of the two species are also different, *C. adunca* being bright white and *C. norrisiarum* being a cream color. The Blunt slipper, *C. norrisiarum*, often has many juveniles on the host shell, particularly the Blue-ringed top snail, *Calliostoma ligatum* (Fig. 3), while the juveniles of *C. adunca* quickly disperse.

There are still many mysteries to be investigated. For example, only *C. adunca* can be found on the host snail, Dire whelk, *Lirabuccinum dirum* (Fig. 4), while both species are common on the Blue-ringed top snail, *Calliostoma ligatum*.



Fig. 1 The low blunt apex of the Blunt slipper *Crepidula norrisiarum* (L) and the hooked, elevated apex of the Hooked slipper *C. adunca* (Rick Harbo photo)

Fig. 2 The smooth shelf of *C. norrisiarum* (L) and the “pitted” shelf of *C. adunca* (Rick Harbo photo)



Fig. 3 Jan Kocian photo



Fig. 4



Fig. 5

Fig. 3 Numerous Blunt slippers, *Crepidula norrisiarum*, are found on the Blue-ringed topsnail, *Calliostoma ligatum*. (Jan Kocian photo)

Fig. 4 The Hooked slipper, *Crepidula adunca*, is common and apparently unique on the Dire whelk, *Lirabuccinum dirum*. (Rick Harbo photo)

Fig. 5 The Hooked slipper, *Crepidula adunca*, is common on the intertidal Black Turban, *Tegula funebris*. (Rick Harbo photo)

REFERENCES

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